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Genetic Engineering and the Quest for a Perfect Society

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Abstract

Virtually, every field of human endeavor is encapsulated in the trend of scientific progress. The indices of the present progress in science are such that we can begin to talk of science as being at its crescendo. However, with these advancements and conquests, questions arises as to if humanity is really happy? Nowadays, this idea of continuous progress is seriously challenged. There has been a basic tension between the awareness of the 'limit of growth' and the idea of 'continuous progress'. It is within this context that this piece attempts to make unique enquiries. It first understands what genetic engineering is all about. Having understood its content and objective, it raises questions about its moral sense, however, with particular reference to human cloning.

Key words: Genetic Engineering, science, human cloning, perfect society.

Introduction

The human search for knowledge rarely alters its direction and mood with radical suddenness; however, there are times when its concerns and emphasis clearly separate it from its immediate past. Such was the case with the dawn of modernism, animated by the Cartesian anthropological philosophy, which threw overboard the theocentricism of the 'Medieval World'. Since then, a kind of infatuation over practical knowledge such as Marxism, pragmatism, Utilitarianism has dominated the landscape of the human search for knowledge, giving impetus to science and technology, the conquest of nature (Kanu, 2004).

Obviously, scientific technology has recorded thrilling and appalling prodigies and significant advancements in the history of humanity. Virtually, every field of human endeavor is encapsulated in this trend of scientific progress. So that we can begin to talk of science as being at its crescendo; in fact, with science, we are already knocking at the door of physical immortality (Kanu, 2004). However, with these advancement and conquest is humanity really happy? Nowadays, this idea of continuous progress is seriously challenged. There has been a basic tension between the awareness of the 'limit of growth' and the idea of 'continuous progress' in science and technology (Okoro, 2003). It is within this aperture that this piece raises questions about the moral sense of genetic engineering with particular reference to human cloning.

Science and the quest for a perfect society

As far back as the ancient era of human history when science was still at her rudimentary stage, she has been obsessed with the idea of creating a perfect world, a world where people would be free from pain, sickness and disabilities, feeblemindedness, epilepsy, criminality, insanity, alcoholism, pauperism, strife and death. This comes to the fore in Plato's writing almost 2,300 years ago, he advised that the best of either sex should be united with the best as often as possible, and the inferior with the inferior as seldom as possible. However, in modern time this endeavor to improve the human species has begun in earnest, and this discipline was called eugenics (Awake, 2000).

The concept *eugenics* is from the Greek word ευγενεια, which means 'nobility of birth' or 'high descent'; the word was coined in 1883 by Francis Galton, a British scientist and a cousin of Charles Darwin. Francis was aware of the scientific progress that has allowed for various flowers and animals to

acquire certain desirable qualities through selective breeding, and so he thought that the quality of humanity may be improved through similar methods. He reasoned that if a fraction of the cost and effort devoted to the breeding of horses and cattle were spent on the improvement of the human race, the result would be a galaxy of genius. Following the trends already set by Darwin, he believed that it was time for humans to take control of their own evolution. In fairs and expositions in both Britain and America, the laws of genetic inheritance were depicted, often on a vertical board displaying an array of stuffed guinea pigs arranged to show the inheritance of colour to the next generation, in juxtaposition to human diseases and disabilities also inherited from generation to generation.

This ideology in circulation led to so much carnage in Europe and America. Tens of thousands of humans were tagged 'undesirables', more terrible was the fact that those who defined the 'undesirables' were those making the decision to force sterilization. In USA for example, legislation was proposed calling for sterilization of those convicted of murder, rape, and highway robbery, chicken stealing, bombing, or theft of automobiles. In a misguided effort to achieve a master race in one generation, Nazi Germany went a step further. After the forced sterilization of 225,000 people, millions of others, Jews, Romanies (Gypsies), the disabled, and other undesirables were exterminated under the guise of eugenics; and because of this barbarism, eugenics took up a negative connation and many hoped that this field of study had been laid to rest, buried with the millions who died in its name.

In the 1970's however, reports circulated of scientific advances in the fledgling of molecular biology. Some feared that this advances may fuel a return to the ideas that had seduced Europe and North America earlier in the century. Today people talk about improving health and quality of life. The old eugenics was rooted in politics and fuelled by bigotry and hatred. The new advances in genetic research are fuelled by commercial interest and consumer desires for better health. But while there are major differences, the goal of shaping people to our own genetic prejudices may sound much like the old eugenic (Awake, 2000).

Genetic engineering

Genetic engineering emerged in 1973 when the technique of gene splicing was invented. It involves the arrangement or substitution of genes on the molecular level within the chromosomes. A gene is cut into sections, and fragments from other genes are inserted between separate parts and reunited

into a recombined gene. This technique in the view of science expands mankind's dominion over nature (Peschke, 2004). Because of the perilous possibilities owing to the former development of eugenics, in the Asilomar conference, held in Monterey, USA, in 1975, the conference voted to allow the National Institute of Health to publish guidelines for future research on gene splicing. This resulted in the 1974 publication of the *NIH Guidelines for research on Recombinant DNA Molecules.* As more experience was gained and the potential hazards clearly evaluated, the guidelines have been progressively relaxed but not discarded.

Genetic engineering and infrahuman life

The purpose of genetic engineering on the infrahuman level is the construction of organisms with desired traits. It tends towards the improvement of the animal species, for example, the breeding of cattle to yield more milk. It intends to replace all our current crops with genetically engineered varieties of species. The revolutionaries of this school comprising of transnational agro-chemical corporations promise an improved form of agriculture, which will be destructive and intolerant of those forces that militate against the success of our food crops, such as diseases, viruses and insects. It is designed to alter and improve seeds and plants so that they can resist nature's onslaught. As a result, they have put corn genes into rice, trout genes into crayfish and chickens into potatoes. Even human genes have been spliced into pigs to produce leaner pork (Rose, 1997). These attempts have met with unpredictable results. For instance, pest control was formerly carried out by spraying pesticides, but because of the natural evolutionary response to develop resistance to it in other to survive, genetic engineering has come up with new designer plants, which are pest resistant. These are so because of the spliced, altered poisoned genes from scorpions, spiders and bacteria inserted into them. Whenever the offending caterpillar or insect takes a bite of the leave or flower, they get a mouth full of toxic poison from within the plant itself (Ocherike, 2001).

Monsota, creator of the 'terminator seed' genetically altered so as to germinate once, has also initiated genetically engineered crops, particularly Soya Bean called Roundup Ready Soya bean (RRS), it is so called because of its resistance to roundup, a weed killer that is toxic to most plants. When it is spread, the RSS remain while every other weed, flower and even insects and birds that depend on them are wiped away (Ellen, 1998). These notwithstanding, many genetic engineering companies are profit oriented and forget the side-effects of their genetically manufactured crops on their

consumers. Many scholars are of the opinion that industrial agriculture with its affiliation to genetic engineering is moving in a dangerous direction, adapting plants to chemical poisons: the long term effect for entire population eating food containing chemical toxin unknown. Environmental concerns have also been voiced, there are fears with wild plants; and that resistance to herbicides could be transferred to weeds, creating super weeds (Rose, 1997).

Genetic engineering and human life

Science tells us that the human person is made up of about 100 trillion cells. Most cells have a nucleus. Inside each nucleus are 46 packets called chromosomes. Each chromosome contains a single, tightly coiled, threadlike molecule called DNA. It is estimated that within the DNA there are up to 100,000 genes, positioned something like worms and cites along a major highway. Our genes largely determine every characteristic in our body- our development in the womb, our gender and physical characteristics, and our growth to adulthood. Scientists also believe that our DNA include a 'clock' that determine how long we will live (Awake, 2000).

With the above knowledge of the human genetic system, science has been able to record thrilling advances: infant mortality is reduced ever more and children with genetic defects survive ever more readily, genetic medicine is rapidly gaining in importance. Through gene therapy, hereditary defects in certain cells of the body are eliminated. For instance if in sickness of the formation of blood, defect cells would be taken from the marrow, treated genetically and then re-implanted in the body combined with a procedure favoring their auto-replication. Cellular gene therapy would also be the correction of abnormalities in the cell structure of the developing embryo (Peschke, 2004). These notwithstanding, the problem here is 'who decides which 'improvements' of the human person are desirable?'

As bioethics become more effective, doctors expect to have far greater powers to detect and correct genetic defects that either cause or predispose humans to various diseases. In addition, scientists hope that eventually, they will be able to transfer artificial chromosomes into a human embryo to offer protection against such diseases as Parkinson, AIDS, diabetes, and prostrate and breast cancer. A child will thus be born with a strengthened immune system. There is also the plan to manipulate genes so as to boost intelligence or improve memory.

In this regard, Matt Ridley argued that contrary to our common sense view, genetic research has now proved that how we are brought up and the nature

of our family background have little effect on the sort of people we become. All the important aspect of our personality are somehow preordained by our genes (Rose, 1998). As such, people are gay because they have gay genes; people are violent because they have violent or criminal genes; people are drunk because they have genes of alcoholism. As a result of this genetic understanding, human behaviours have been simplified and shoehorned into genetic models, violent offenders have had the temerity to blame their genes and not themselves for offenses committed. For example, once in a US court case, the lawyer of Stephen Mobley, sentence to death for violent murder of Pizza Palour Manager, sought permission to mount a genetic defense, 'It was not me, it was my genes' (Rose, 1998). Such ideas are mere simplifications with its cheaply seductive dichotomies of nature, gene and environment deeply fallacious. This is because the phenomena of life are always and simultaneously biological and social. And any adequate explanation must involve both.

Human cloning

Cloning is a form of asexual reproduction used for animals. In one form of the reproduction, it is brought about by the division of an embryo in its early stage by two or more embryos, in the other by the exchange of cell nucleus of an ovum through the nucleus of the cell of an adult animal. The thus treated embryo or ova are transferred to the uterus of a female animal and there stimulated to grow (Peschke, 2004).

In 1997 a sheep called Dolly made headlines around the world. What makes Dolly special was that she was the first mammal successfully cloned from an adult cell, taken from a ewe's mammary gland. Thus Dolly became a younger twin to the sheep from which the cell was taken. Before cloning dolly, scientists have for decades cloned animals from embryonic cells. With this new development, the question was now extended to human beings 'Will there ever be another you?' 'Can we clone humans?' Applying this to human beings would imply producing simultaneously a number of individuals that are the same person, meaning that the dead could even be replaced repeatedly with totally the same figure (Ocherike, 2001).

Evaluation and conclusion

From the perspective of Christian anthropology, God created the human person in the image and likeness of Himself (Gen 1:27). This implies that God created human beings with something of himself and endowed them

with supernatural gifts. Human cloning is a complete reversal of the divine plan. In human cloning, the human person is rather created in the image and like of a fellow human person. And though most scientists who indulge in genetic engineering hold onto the scriptural injunction: "Be fruitful and multiply, fill the earth and subdue it", the scientist must listen to the theologian for biblical interpretation: the first part, 'Be fruitful and multiply, fill the earth', is restricted to the natural process, and not through an artificial fabrication of fellow humans in the laboratory. And the second part: "Subdue the earth" is not a license to manipulate nature.

The advancement in genetic engineering now helps doctors screen through therapy to check the sex of babies; they also screen for conditions and disorders that they cannot treat, and so abortion is often presented as a treatment. In the contention of Russell (1995), "We have been happy to devote a life time to the service of science, for we think that science is a way to fuller life for mankind. But we are alarmed when realizing that it is this very science which now provides man with the means of self-destruction" (p.18). Any attempt aimed at sex selection is all in conflict with the personal dignity of the individual, even in the earliest stages of development.

While cloning tends towards the 'molding' of genetically identical twin of the person from whom it was cloned, it is worthwhile to know that diversity, spontaneity, contingency and uniqueness belong to the nature of burgeoning life. Repetition of what already is does not enhance the future. Nothing now comes into being. Rather the old is pinned down (Peschke, 2004).

One of the greatest ethical arguments against cloning comes from practical experience. The experiments with animals reveal frequent abnormalities: excessive birth weight, malformed hearts, livers and other organs. Birth defects occur at the alarming rate of 20 to 30 percent, compared with 1 or 2 percent for natural births. For animal cloners, these are issues of cost and quality control. For humans they are grave moral concern. One may kill an abnormal calf, not however an abnormal human being. This, most strongly underscores the moral inadmissibility of the cloning of humans (Guterl and Karen, 2003).

It is becoming more obvious that the driving impulse of course, is financial – to make money from the technology of the future. Many bioethicists fear that this could lead to "consumer eugenics" in which parents would be pressured to select "genetically approved" children. It is easy to imagine how advertising could play a major role in such a trend (Awake, 2000).

Cloning, for many scientists, is a divinely approved project because God gives souls to cloned babies. His argument is as good as going back to the archaic argument that God approves of rape by causing a child to result from it. Cloners, if given the chance would turn the human person into objects of experimentation and dissection, and eventually babies will be produced in good numbers just as industrial manufacturers produce goods to be sold. Soon human babies will be tagged with prices following their appearances. Human cloning deals with us, our lives, our understanding of our lives as humans and with the fate of humanity in the future (Iroegbu, 1994). While this piece is a contribution to the already ongoing discourse on genetic engineering, it further suggests that it is an area that requires more study, analysis and evaluation for the benefit of the future of the human race.

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